

## An insectivorous Australian Pratincole *Stiltia isabella* diversifies its diet

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### Abstract

Pratincoles and coursers (family Glareolidae), including the primarily ground-feeding Australian Pratincole *Stiltia isabella*, are principally insectivorous. This paper presents a brief note on the first documented occurrence of Australian Pratincole (and indeed a rare record of any glareolid bird) feeding on vertebrate prey, in this case a small frog.

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The family Glareolidae is made up of two distinct sub-families, the coursers (Cursoriinae) and the pratincoles (Glareolinae), both of which are principally insectivorous (del Hoyo *et al.* 1996; Higgins & Davies 1996). Coursers are mostly ground feeders while pratincoles are mostly aerial feeders; the exception is the Australian Pratincole *Stiltia isabella* (the sole member of its genus), which forms a link between the two groups and is the only pratincole to feed primarily on the ground (Maclean 1976; del Hoyo *et al.* 1996). Stomach contents and feeding records indicate that a diversity of insects constitute the species' diet, with additional prey items including centipedes (Myriapoda) and spiders (Arachnida) (Maclean 1976; Barker & Vestjens 1989; Higgins & Davies 1996). While del Hoyo *et al.* (1996) state that glareorids will sometimes take small lizards, they do not indicate the group or species for which this has been recorded. Here we present a brief note on the first documented occurrence of Australian Pratincole (and indeed a rare record of any glareolid bird) feeding on vertebrate prey.

On the morning of 6 October 2011, an Australian Pratincole was observed and photographed consuming a frog on a private watermelon farm in Lambells Lagoon, Northern Territory, Australia (12°33'22"S, 131°14'51"E) (Figures 1–4). When the pratincole was first observed, the frog was already in its bill (the capture event itself was not witnessed). The frog appeared limp and movement was not noted. It is therefore uncertain if the pratincole killed the prey, or if it scavenged an already dead frog. The habitat was an agricultural field of largely open dry soil, with a subsurface irrigation system that is known to provide habitat for a variety of frog species (D. Webb, pers. comm.). There was a large number of actively feeding inland

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shorebirds present on the property, including an estimated 1 000+ Little Curlew *Numenius minutus* and smaller numbers of Oriental Plover *Charadrius veredus* and Australian Pratincole.

Based on reported measurements of bill length in Australian Pratincole (~12–16 mm; Higgins & Davies 1996), the size of the frog was estimated to be <20 mm snout to vent length (SVL). While a definitive identification of the frog (Figures 5–6) is not possible given the distance of the observation, the most likely species can be inferred based on its general form and structure and the occurrence of local fauna (based on Tyler & Davies 1986; Tyler & Knight 2009; S. Richards, pers. comm.). The general form, leg length, toe length, unwebbed toes, and the lack of brown speckles and flecks on the belly rule out the Cane Toad *Rhinella marina*. Frogs of the family Hylidae (tree frogs including the genera *Litoria* and *Cyclorana*) can be discounted due to the lack of webbing and the lack of adhesive discs on the toes. General form, unwebbed toes and white belly match that of the Marbled Frog *Limnodynastes convexiusculus* and the Ornate Burrowing Frog *Platyplectrum ornatum* (family Limnodynastidae), although



Figures 1–4. Australian Pratincole *Stiltia isabella*, Lambells Lagoon, Northern Territory, 6 October 2011, feeding on a frog, most likely of the genus *Crinia*. (Micha V. Jackson)

both of these are larger frog species (*J. convexiusculus* up to 61 mm SVL, *P. ornatum* up to 45 mm SVL; Tyler & Knight 2009). The apparent white belly, long legs and lack of digital discs means that it is not the Northern Territory Frog *Austrochaperina adelphoe*, the only frog of the family Microhylidae found in the region. The unwebbed toes and small size are consistent with frogs of the family Myobatrachidae; the long legs and body shape do not match *Uperoleia* species (native toadlets), but observable features, including small size, are consistent with froglets of the genus *Crinia* (Bilingual Froglet *C. bilingua* and Remote Froglet *C. remota*), which are known locally (S. Richards, pers. comm.) and represent the most likely candidates.

Species are often categorised, in a simplified form, as either generalist (opportunistic) or specialist feeders (Glasser 1982). However, there can be variation in diet between individuals within a population (Durell 2000) and plasticity of diets can result from opportunities to exploit different prey which are energetically beneficial. While the Australian Pratincole can be considered a specialist insectivore, pratincoles on the



Figures 5–6. Enlarged photos of a frog, most likely of the genus *Crinia*, consumed by an Australian Pratincole *Stiltia isabella*, Lambells Lagoon, Northern Territory, 06 October 2011, showing two diagnostic features: 5. Lack of webbing and lack of digital discs on the toes; 6. White belly. (Micha V. Jackson)

whole have been described as opportunists, taking advantage of temporarily available insect prey, such as winged termites (del Hoyo *et al.* 1996), and therefore adjusting their prey choice as opportunities arise. This may extend to any prey, invertebrate or vertebrate, that is available and accessible. While gape limitation may be a restriction on the size range of prey that can be taken (Zwarts & Blomert 1992), the Australian Pratincole is adept at taking relatively large prey, including beetles up to about 25 mm and dragonflies up to 80 mm in length (Maclean 1976).

The observed Australian Pratincole had little trouble manipulating and swallowing the frog, indicating that gape width and depth did not limit the selection of this prey (the soft skin of a frog might also make its size less restrictive compared with the exoskeleton of insects like beetles). While del Hoyo *et al.* (1996) note that glareorids will sometimes take small lizards, our observation represents rare documentation of a species whose family has been described as 'entirely insectivorous' (Higgins & Davies 1996) feeding on vertebrate prey. Further observations may indicate whether or not vertebrates (either scavenged or hunted) constitute a more frequent component of the Australian Pratincole's diet.

## Acknowledgements

We thank David Webb for access to the property where the observation was made, to Bas Hensen, our birdwatching companion on the day of the observation, to Stephen Richards and Conrad Hoskin for discussions on local frog identification and occurrence, and to Richard Noske for initial discussions on the manuscript.

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